

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method for securing a portable security module for use with a decoding element, the portable security module and the decoding element allowing to descramble scrambled audiovisual information, the method comprising:
 - processing at the portable security module Entitlement Control Messages (ECMs) received at the portable security module to allow the descrambling of the scrambled audiovisual information;
 - the method being characterized in that it further comprises:
 - analyzing (402) at the portable security module a sequence of ECMs, the sequence of ECMs comprising a new ECM and a previous ECM received at a previous time, the ECMs of the sequence being received at the portable security module at distinct times, the analyzing being performed at the receiving of the new ECM;
 - incrementing at the analyzing an error register upon a determined result of the analyzing (403);
 - applying a penalty to the portable security module depending on a value of the error register by introducing a dead time at the processing so as to slow down the processing (404).
2. (Original) The method according to claim 1, wherein the ECMs are replaced with Entitlement Management Messages (EMMs).
3. (Currently Amended) The method according to claim 1, wherein: the dead time has a duration that depends on a value of the error register (404).
4. (Currently Amended) The method according to ~~any one of claims 1 or 3~~ claim 1, wherein
 - the duration of the dead time is shorter than a maximum time value;
 - the maximum time value is high enough to prevent the portable security module (31) from processing more than one ECM during a single cryptoperiod.
5. (Currently Amended) The method according to ~~any one of claims 1, or 3 to 4~~ claim 1, wherein:

each ECM (54_{no} 54_{n+1}) comprises a channel identifier (51_{no} 51_{n+1}), the channel identifier being associated to a determined channel;

the analyzing of the sequence of ECMs comprises comparing the channel identifier 51_{n+1} of the new ECM 54_{n+1} and the channel identifier 51_n of the previous ECM 54_n .

6. (Currently Amended) The method according to ~~any one of claims 1, or 3 to 4~~ claim 1, wherein:

each ECM (54_{no} 54_{n+1}) comprises a first encrypted Control Word (52_{no} 52_{n+1}) and a second encrypted Control Word (53_{no} 53_{n+1});

the first Control Word allows to descramble the scrambled audiovisual information during a first cryptoperiod;

the second Control Word allows to descramble the scrambled audiovisual information during a second cryptoperiod distinct from the first cryptoperiod;

the analyzing of the sequence of ECMs comprises comparing a second Control Word 53_n of the previous ECM 54_n to a first Control Word 52_n of the new ECM 54_{n+1} .

7. (Currently Amended) The method according to ~~any one of claims 1, or 3 to 4~~ claim 1, wherein:

the analyzing of the sequence of ECMs comprises comparing a determined content of a first ECM of the sequence of ECMs to a second determined content of a second ECM of the sequence of ECMs.

8. (Currently Amended) The method according to ~~any one of claims 1, or 3 to 7~~ claim 1, further comprising:

introducing upon a reset a reset dead time at each processing of the ECMs, wherein:

the reset dead time has a duration that depends on a number of ECMs received at the portable security module after the reset, the duration being equal to a first reset time value at a first processing immediately following the reset; the first reset time value is smaller than the maximum time value.

9. (Currently Amended) The method according to ~~any one of claims 1, or 3 to 8~~ claim 1, further comprising:

evaluating the nature of a further reset according to an intermediate group of intermediate ECMs, the intermediate group comprising the ECMs received after a previous reset preceding the further reset.

10. (Currently Amended) The method according to claim 9, further comprising:

counting the number of the intermediate ECMs (72);

comparing the number of the intermediate ECMs to a reset threshold number (73), wherein a result of the comparing allows to evaluate the nature of the further reset;

incrementing upon the further reset a reset error register (79) if the further reset is evaluated as suspicious; or;

blocking the portable security module (71) if the reset error register has a value that is higher than a reset errors threshold.

11. (Currently Amended) A portable security module (31) for use with a decoding element, wherein the portable security module and the decoding element allow to descramble scrambled audiovisual information, the portable security module comprising:

receiving means to receive Entitlement Control Messages (ECMs);

processing means (32) to process an ECM received at the portable security module so as to allow the descrambling of the scrambled audiovisual information;

the portable security module being characterized in that it further comprises:

a command message memory (36) into which a previous ECM (ECM_n) received at a previous time may be stored;

analyzing means (35) to analyze a sequence of ECMs, the sequence of ECMs comprising a new ECM and the previous ECM, the ECMs of the sequence being received at the portable security module at distinct times, and the analyzing being performed at each receiving of a new ECM (ECM_{n+1});

comparing means to compare the new ECM and the previous ECM of the sequence of ECMs;

an error register (37);

incrementing means to increment the error register depending on a result of the comparing;

delaying means to introduce a dead time at each processing so as to slow down the processing.

12. (Currently Amended) The portable security module (31) according to claim 11, wherein:

the delaying means also allow upon a reset to introduce a reset dead time at each processing following the reset;

the reset dead time has a duration that depends on a number of processing following the reset, the duration being equal to a first reset time value at a first processing immediately following the reset.

13. (Currently Amended) The portable security module (31) according to ~~any one of claims 11 to 12~~ claim 11, further comprising:

a count register allowing to store a number of intermediate ECMs, the intermediate ECMs being received at the portable security module after a previous reset;

a flag, the flag having a value that depends on a result of a comparing of the count register to a reset threshold number;

a reset error register that is incremented depending on the value of the flag upon a further reset;

blocking means to block the portable security module according to a value of the reset error register.

14. (Currently Amended) The portable security module according to ~~any one of claim 11 to 13~~ claim 11, wherein the ECMs are replaced by Entitlement Management Messages (EMMs).

15. (Currently Amended) A computer program for use within a portable security module, wherein the computer program implements the method according to ~~any one of claims 1 to 10~~ claim 1.

16. (Currently Amended) A method for securing a portable security module comprising downloading a software that allows to implement a method according to ~~any one of claims 1 to 10~~ claim 1, wherein the downloading comprises receiving at the portable security module at least one configuration message from the decoding element.

17. (New) The method according to claim 3, wherein the duration of the dead time is shorter than a maximum time value; the maximum time value is high enough to prevent the portable security module from processing more than one ECM during a single cryptoperiod.
18. (New) The method according to claim 3, wherein:
- each ECM (54_{no} 54_{n+1}) comprises a channel identifier (51_{no} 51_{n+1}), the channel identifier being associated to a determined channel;
 - the analyzing of the sequence of ECMs comprises comparing the channel identifier 51_{n+1} of the new ECM 54_{n+1} and the channel identifier 51_n of the previous ECM 54_n .
19. (New) The method according to claim 4, wherein:
- each ECM (54_{no} 54_{n+1}) comprises a channel identifier (51_{no} 51_{n+1}), the channel identifier being associated to a determined channel;
 - the analyzing of the sequence of ECMs comprises comparing the channel identifier 51_{n+1} of the new ECM 54_{n+1} and the channel identifier 51_n of the previous ECM 54_n .
20. (New) The method according to claim 3, wherein :
- each ECM (54_{no} 54_{n+1}) comprises a first encrypted Control Word (52_{no} 52_{n+1}) and a second encrypted Control Word (53_{no} 53_{n+1});
 - the first Control Word allows to descramble the scrambled audiovisual information during a first cryptoperiod;
 - the second Control Word allows to descramble the scrambled audiovisual information during a second cryptoperiod distinct from the first cryptoperiod;
 - the analyzing of the sequence of ECMs comprises comparing a second Control Word 53_n of the previous ECM 54_n to a first Control Word 52_n of the new ECM 54_{n+1} .